ConocoPhillips Air Quality Permit
Early Information Sheet

U.S. Environmental Protection Agency, Region 10 Spring 2010

The Environmental Protection Agency (EPA) Region 10 is reviewing a Title V operating permit application from ConocoPhillips Company, to explore for oil and gas in the Chukchi Sea, Alaska. ConocoPhillips plans to use a jack-up rig to drill exploratory wells in the Devil's Paw prospect on the Outer Continental Shelf beginning in July 2012. The drilling location ranges from 70-90 miles from the North Slope, 115-140 miles from Wainwright, and 80-100 miles from Point Lay (see Chukchi Lease Sale 193 map).

Title V operating permit

In their Clean Air Act Title V operating permit application, ConocoPhillips is limiting their emissions of regulated air pollutants to less than 250 tons per year. This emissions limit means that the project will not need to be permitted under the Clean Air Act Prevention of Significant Deterioration program.

ConocoPhillips must demonstrate compliance with the National Ambient Air Quality Standards (NAAQS) using computer modeling. The permit will require compliance with all air quality rules that apply to the operations and any additional emission reduction necessary to ensure compliance with the NAAQS. The Title V operating permit will address and allow drilling at multiple locations in the Devil's Paw area.

Permit review and public comments

EPA is the air permitting authority for the Chukchi Sea Outer Continental Shelf. EPA determined that the ConocoPhillips application was complete for review on April 13.

EPA expects the permit review to take five to seven months from a complete application to a permit decision. Before making a permit decision, EPA plans to participate in informational teleconference calls about the permit with interested North Slope communities. There will be opportunities for community members to comment on the permit review, including a 45-day public comment period and possibly public hearings or public meetings.

Jack-up rig in operation

EPA CONTACTS

Doug Hardesty,
Project Lead,
(208) 378-5759,
hardesty.doug@epa.gov

Cathy Villa, Alaska Tribal Coordinator,
(907) 271-1270, **villa.catherine@epa.gov**

Suzanne Skadowski,
Community Involvement Coordinator,
(206) 553-6689, **skadowski.suzanne@epa.gov**

More information

The permit application and additional information is on the web:

http://go.usa.gov/33U

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Project Details

Oil and gas exploration

The initial drilling program (jack-up rig erection to jack-up rig platform take-down) will take up to 100 days during the first year of exploration. Drilling will continue in subsequent years only if a significant accumulation of hydrocarbons is discovered. At that point, ConocoPhillips will consider drilling one to three additional appraisal wells per year in later years. The Title V permit would allow ConocoPhillips to drill anywhere in their lease blocks for as long as the leases are valid.

Air emissions

To minimize air quality impacts, all combustion equipment on the vessels and the drill rig will utilize ultra-low sulfur diesel fuel. To minimize nitrogen oxide emissions, selective catalytic reduction technology will be employed on the rig's main drilling engines and on the main and auxiliary engines on the icebreaker vessels. EPA expects that onshore air quality impacts from this project will be very small.

ConocoPhillips has predicted their potential air pollutant emissions, shown in the following table.

Air Pollutant	Emissions (tons per year)
Carbon Monoxide (CO)	173.6
Nitrogen Oxides (NO_x)	225.3
Particulate Matter 2.5/10 ($PM_{2.5}$)/(PM_{10})	13.7
Particulate Matter (PM)	22.8
Sulfur Dioxide (SO_2)	0.6
Volatile Organic Compounds (VOC)	25.6
Lead (Pb)	0.1
Hydrogen Sulfide (H_2S)	0.1
Sulfuric Acid (H_2SO_4)	0.1
Total Hazardous Air Pollutants	1.5
Hydrogen Chloride (HCl) – largest Hazardous Air Pollutant emission	0.33

Drill rig and support vessels

ConocoPhillips submitted the permit application based on representative equipment planned for this project, because the rig and support vessels have not been leased or contracted yet. The drill rig is a barge-mounted drilling derrick with extendable legs for jacking up the barge/platform above the water. The rig will be towed to the drilling site. If drilling must stop for safety reasons due to ice movement too close to the rig, the rig platform will be lowered, the legs raised and the rig will be towed to another location beyond the ice to wait for the ice to clear before returning to the drill site. Multiple support vessels will be used within 25 miles of the rig.

Oil Spill Response Vessels (2) and Workboats (4) One main oil spill response vessel will be located within 10 miles of the rig during drilling activities. This vessel will be cruising or anchored during this time. The vessel will be loaded with two smaller 34-foot workboats that can be quickly offloaded to help spill response. During rig fueling (up to 6 times per season), the vessel and/or small workboats will be used to lay protective booms around the refueling vessel and rig. Each rig fueling will take up to six hours including laying and removal of the booms. A second vessel, also loaded with two 34-foot workboats, will be located beyond 25 miles of the rig except for up to 48 hours per season for use in Mineral Management Service (MMS) directed spill response practice. Both vessels and workboats will be used for oil spill response exercises within 1 mile of the rig.

Icebreakers (2) Two icebreakers (a primary and secondary) will be used for ice management. These icebreakers will operate within 25 miles of the rig up to 1350 hours per season (675 hours per season each), depending on ice conditions. If the icebreakers need to move closer than five miles of the rig for ice management, the rig drilling will be shut down and the rig will be immediately prepared for movement to a pre-approved location. The icebreakers will use selective catalytic reduction technology on the main and auxiliary engines to control nitrogen oxide emissions.

Drill rig and support vessels

Continued

Partially sunken "flat-bed" vessel after unloading jack-up rig

Offshore Supply Vessels (2) and/or Ware Vessel - ConocoPhillips is considering two options to resupply the rig depending on the rig used. One option is to use offshore supply vessels on alternating trips every four days up to 60 trips per season.

The other option is a Ware Vessel (with supply vessel backup), with a much larger supply capacity for fewer supply trips. Each supply vessel will transfer supplies while being held on station with dynamic positioning next to the rig (without physical attachment) and use a crane to move supplies on and off the rig. The supply vessels may be used to tow the rig to the drill site.

Spill Storage Tanker - A spill storage tanker will be maintained for oil spill response and located beyond 25 miles of the rig except during MMS directed spill exercises. The spill storage tanker vessel will cruise 5 miles from the rig and anchor during the exercises to demonstrate response capabilities for oil spill collection with the oil spill response vessel and workboats.

Anchor Handling Supply Tug – A tug will be used (with the two supply vessels) to tow the rig to the drilling site or move the rig to another site. After the rig is towed to the drilling site, the legs will be lowered to the sea floor and the rig stabilized.

The tug will disconnect from the rig but remain nearby for up to 20 hours in case the rig has to be moved due to a stability problem or an emergency. Once the rig is jacked up, the tug will leave the 25 mile area around the rig. ConocoPhillips expects to move the rig three times during a drilling season.

Marine Research Vessel - A marine research vessel may operate within 25 miles of the rig to conduct marine animal research and collect data during drilling activities, up to 600 hours per season.

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1200 Sixth Avenue, ETPA-081
Seattle, Washington 98101-1128

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Unloading jack-up rig from "flat-bed" vessel

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